



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Re Application of Kentaro Nakada, et al.

Serial No: 09/729,989

Art. Unit: 2614

Filed: December 6, 2000

Examiner: Paulos M. Natnael

For: BROADCASTING SYSTEM OF DATA BROADCAST IN TELEVISION
BROADCASTING

BRIEF ON APPEAL

Mail Stop Appeal
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

Pursuant to 37 C.F.R. § 41.37, Applicant/appellant hereby submits this appeal brief in support of appeal from the decision of the Primary Examiner in the Final Office Action dated September 13, 2005 and the Advisory Action dated December 28, 2005 finally rejecting claims 6-10.

The appeal brief is being timely submitted under 37 C.F.R. § 41.37(a) as the Notice of Appeal was filed on March 13, 2006.

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I. REAL PARTY IN INTEREST

The real party in interest is the assignee of record, namely, NHK Service Center, Inc., 41-1 Udagawacho, Shibuya-Ku, Tokyo, Japan.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to appellant, appellant's legal representative or the assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 6-10 are pending in the present application. Claims 1-5 were cancelled without prejudice in an amendment filed with the Office on December 3, 2004. Claims 6-10 stand finally rejected. The assignee of record appeals from the final rejection of all the pending claims, which claims are set forth in the attached claims appendix.

IV. STATUS OF AMENDMENTS

An amendment was filed with the Office on December 3, 2004 cancelling originally filed claims 1-5 and adding new claims 6-10 and has been entered. Applicant has not filed any further amendments under 37 C.F.R. §1.116.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention is generally directed to the wireless broadcast of plural television programs in a single channel to a user to allow a user to select one of the plurality of television programs for display. The transmission of a plurality of television programs on a single channel affords the user a level of interactiveness without requiring the user to use a return link to the broadcast source.

Some exemplary embodiments of the invention are shown in Figures 1-2. More specifically, the embodiment of Claim 6 is directed to the simultaneous transmission of plural entertainment programs, where each entertainment program has image and sound signals (Fig 2; page 3, lines 19-24). The sound signals for the plural entertainment programs are mixed by a computer executable code. (Fig 2; page 4, line 21-page 5, line 14). The image signals and the mixed sound signals for the plural entertainment programs are broadcast in a first broadcasting band to a receiver (Fig. 2; Page 3, lines 16-24). The computable executable program that is used to mix the sound signals is transmitted in a second broadcasting band different than the first broadcast band. (Fig 2; page 4, lines 22- page 5, line 1). A user can select one of the plurality of the entertainment programs for display, and the computer executable program will provide the sound corresponding to the selected entertainment program. (page 2, lines 11-14).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 6-10 are subject to rejection under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,076,094 to Cohen, et al. (hereinafter "Cohen").

VII. ARGUMENT

A. Background

In a conventional wireline television broadcast to a user, such as in a cable television system, interactive programming is available to the customer due to the two-way communication between the broadcaster and the customer. For example, the same cable that provides entertainment programming from the broadcaster to the customer can be used to carry communications from the customer to the broadcaster to request a change in the broadcasting content. However, in a wireless broadcast system, wherein one channel having a single television program is broadcast to many viewers, such as in a satellite broadcast system, interactivity is not permitted and users do not have the ability to select a specific television broadcast unless a dedicated return link is provided between the viewer and the broadcaster. Because only one television program is broadcast for a given channel, a return link allows a viewer to request that a selected program be transmitted by the broadcasting source on that channel. In addition, a problem with a conventional satellite broadcast system is that while images corresponding to plural entertainment programs may be streamed on one channel for broadcast to a receiver, the audio signal band is insufficient to send the sound signals corresponding to the image signals for the plural entertainment programs in a single channel. Thus, more than one channel is needed to send a plurality of television entertainment programs.

B. Applicant's Invention

The present invention allows the broadcast of plural entertainment programs from one channel to a viewer's receiver, which permits the viewer to select one program for

display from the plurality of programs broadcast, without the need for a return link back to the broadcaster. The invention overcomes the problems of the prior art by utilizing a computer executable program at the broadcast station to mix the audio signals corresponding to the images for the plural entertainment programs. The image and sound signal for the plural entertainment programs are broadcast on one channel of a first broadcasting band to a receiver. The computer executable program which mixed the sound signals is transmitted to the receiver in a second broadcasting band. The user selects one of the television programs transmitted on a single channel at the receiver for display. The receiver uses the computer executable program to provide the sound signals corresponding to the selected one of the plurality of entertainment programs. Thus, the sound signals and the image signals of the plurality of entertainment programs are broadcast in a single channel, and the user may select one of the plurality of entertainment programs from the single channel for display.

C. The Cited Art

U.S. Patent No. 6,076,094 ("Cohen") is directed to a distributed database system and database received therefore. Cohen discloses a database located at a broadcasting station, and another database at the receiver at the viewer's premises. A television program is broadcast from the broadcast station to the receiver, and data from the database at the broadcasting station is broadcast with the television program during the vertical blanking interval (VBI) of the channel. Cohen discloses that the data from the broadcast station database can be text, graphics, video, audio or a computer executable program, (Col. 1, lines 39-45) and that the "data is encoded into datacast packets as

defined by the World Standard Teletext specification and known as Packet 31 data.” (Col. 4, lines 15-18). Cohen also discloses that the VBI is but one example of a datacasting method, “all of which tend to be categorized by a relatively narrow bandwidth compared to the total bandwidth of the signal in which the data stream is embedded.” (Col. 15, lines 43-48). There is no disclosure in Cohen (1) that plural entertainment programs are broadcast on one channel by the broadcast station, or (2) that a television entertainment program having image and sound signals can be transmitted using Packet 31 data during the VBI. Cohen is an example of a television broadcasting system, which can transmit data packets, other than teletext, during the VBI.

Cohen also discloses that a return link can be used to provide interactivity to the viewer. For example, Cohen acknowledges that “for interactivity a point to point return link is needed” (Col. 11, lines 46-48) and return link 140 can be implemented via the public switched telephone network, cellular or GSM telephone networks.” (Col. 12, lines 23-25). Thus, because plural entertainment programs are not broadcast to the viewer on a single channel, a return link is used to allow a viewer to selectively control the transmission of the broadcast of a television program on a channel.

D. A *Prima Facie* Case Of Obviousness Has Not Been Established With Respect to Claims 6-10.

1. Summary

Claims 6-10 have been rejected as unpatentable over Cohen. Applicant submits, however, that the Examiner has not made a *prima facie* case of obviousness because the cited reference does not teach or suggest each of the recited limitations of Applicant’s

claimed method and does not provide the teaching, motivation or suggestion to one of skill in the art to modify the cited reference as the Examiner suggests.

2. Legal Standards For Obviousness

The United States Supreme Court has mandated four separate factual inquiries for assessing alleged obviousness under 35 U.S.C. §103, concerning: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) secondary considerations, if any, of nonobviousness, such as commercial success, long-felt unsolved need, the failure of others, etc. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 U.S.P.Q. 459, 467 (1966); *In re Dembiczak*, 175 F.3d 994, 998, 50 USPQ2d 1614, 1616 (Fed. Cir. 1999).

A patent examiner, as opposed to an applicant, bears the burden of establishing a *prima facie* case of obviousness in proceedings wherein a patent is denied. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). The Federal Circuit has set forth the proper allocation of the burden of proof in the context of an obviousness allegation before the Patent and Trademark Office:

In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art. [The Examiner] can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. The patent applicant may then attack the Examiner's *prima facie* determination as improperly made out, or the applicant may present objective evidence tending to support a conclusion of nonobviousness.

In re Fritch, 972 F.2d 1260, 1265, 23 U.S.P.Q.2d 1780, 1983 (Fed. Cir. 1992) (citations omitted). *See also*, *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed.

Cir. 1993) (“[i]n rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. Only if that burden is met, does the burden shift to the applicant. A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. If the examiner fails to establish a *prima facie* case, the rejection is improper and will be overturned.”) (citations omitted).

MPEP § 2142 is instructive in this instance. This section requires that three criteria be met before a proper case of *prima facie* obviousness may be made: 1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the prior art reference (or references when combined) must teach or suggest all the claim elements. *See* MPEP § 2142. It should be noted in particular that according to element (1), suggestion for the modification is part of the showing required to establish *prima facie* obviousness. Thus, it is plainly insufficient to establish obviousness simply by purported evidence that the elements of the invention are known. The combination or modification is itself part of the invention that is to be examined. The specific combination or modification must be justified to meet the invention claimed as a whole, and it is not appropriate for a rejection to assert that the elements are available and could have been selectively combined or modified. Further, there must be actual evidence of a suggestion, teaching or motivation to combine or modify a reference. *See In re*

Dembiczak, 175 F.3d at 999. Such a teaching must be clear and particular, and broad conclusory statements, standing alone, do not meet this requirement. *Id.*

The motivation to modify the reference to reach Applicant's invention in the present case is not found in the prior art of record. There is no showing of record as to how the person of ordinary skill might come upon such motivation otherwise. There is no basis to conclude that the invention claimed as a whole would have been obvious.

3. The Rejection Premised On Cohen Is Improper

A. The Examiner does not identify where each claim element is taught or suggested in Cohen

The Examiner has sought to establish that Cohen teaches each element of independent claim 6 with the exception that Cohen does not "disclose whether an executable code was used to mix the signals at the server or transmitting station." (Official Action of September 13, 2005 ¶3 , at 3-4). The Examiner has also sought to establish that it is obvious to one skilled in the art to implement the claimed mixing of the sound signals of the plural programs using the computer executable code of Cohen. (Official Action of September 13, 2005 ¶3 , at 4). Such a conclusion is without support in the cited reference and in the law. As described in more detail below, the rejection is based on the selective recitation of portions of Cohen while ignoring the objective teachings of this reference.¹ As a result, the Examiner's suggested modification of Cohen to support his rejection is without support.

¹ It is not entirely clear to Applicant what the bases are for the Examiner's rejection under 35 U.S.C. § 103(a) because the examiner did not specifically read each claim element on the cited art. Thus, it is difficult to address or rebut the arguments provided by the Examiner. For example, the examiner recites to large portions of Cohen alleging that each and every element of Applicant's independent claim are either disclosed or obvious in view of Cohen, while ignoring the invention claimed as a whole or specifically identifying what claim elements the Examiner is discussing.

B. Claim 6 is clearly distinguishable over Cohen

Claim 6 is the only independent claim in the application and claims 7-10 stand or fall with Claim 6. Claim 6 recites six specific elements. Rather than identifying where the claim elements are found or taught in Cohen, the Examiner provided a summary of the disclosure of Cohen and a conclusory statement that all the elements are disclosed but one, and the remaining element would be obvious. In fact, when Applicant's invention is viewed as a whole, Cohen is plainly lacking aspects that are particularly and distinctly claimed.

Claim 6 is reproduced below:

*6. A method of television broadcasting comprising the steps of:
providing plural entertainment programs for broadcast to a receiver, each entertainment program having image signals and sound signals;
mixing the sound signals of the plural entertainment programs using a computer executable code;
broadcasting the image signals and mixed sound signals for the plurality of entertainment programs on one channel of a first broadcasting band to the receiver;
broadcasting the computer executable program in a second broadcasting band which is different from the first broadcasting band to the receiver;
selecting one of the plurality of entertainment programs for display at the receiver;
using the computer executable program to provide the sound corresponding to the selected one of the plural entertainment programs.*

1. First element - providing plural entertainment programs for broadcast to a receiver, each entertainment program having image signals and sound signals

Cohen does not describe providing plural entertainment programs for broadcast. It is silent with respect to this limitation. It describes that TV tuner 127 receives a TV signal 112 and derives primary data from a particular channel for display on display 116.

(Col. 12, lines 2-6). There is no disclosure of primary data as containing more than one television program on a channel.

It appears that the Examiner refers to Col. 11, lines 42-45 to discuss this claim limitation:

In the context of TV multimedia which receives forward directional information from a high bandwidth broadcast (point to multipoint) carrying RDS, TV packet 31 or their digital domain equivalents (MPEG, MPEG2 and Orthogonal frequency division multiplex broadcast data packets... (Final Office Action dated 9/13/2005, p. 3).

However, this reference in Cohen identifies the type of data that can be transmitted during the VBI, which traditionally has been used for teletext data packets. There is no basis for the Examiner to interpret Cohen to suggest that a television program can be transmitted during the VBI of another television program. Thus, there is no disclosure or teaching of providing plural entertainment programs for broadcast on a single channel.

2. Second element - *mixing the sound signals of the plural entertainment programs using a computer executable code*

Cohen is silent with respect to this element and the Examiner concedes this point. However, the Examiner states that it would have been obvious that some sort of a computer program would have been used to mix all the video and audio components before broadcasting “since Cohen discloses the central station 11 uses server (computer) to construct a data stream from individual first record of a transmission database, at least one of the first records comprising executable program code or an object” (Final Office Action dated 9/13/2005, p. 4). The relevant question is not is it obvious to use a computer program to mix sound signals, the relevant question is whether it is obvious to mix sound signals when constructing a data stream for the purpose of transmitting plural

entertainment programs on a single channel. It is clear, mixing of audio signals is not required to construct a data stream, which may not even contain sound signals. For example, in Cohen the central server generates a stream of data which is encoded into datacast packets as defined by the World Standard Teletext Specification and known as Packet 31 data (Col. 4, lines 14-18). Thus, the portion of Cohen relied on by the Examiner can be used for constructing a data stream of text. There is no disclosure, however, of mixing audio signals or why it is required in Cohen, and thus the Examiner's suggestion that the mixing of sound signals using a computer executable code is obvious from the disclosure of Cohen is entirely without objective support.

3. Third element- *broadcasting the image signals and mixed sound signals for the plurality of entertainment programs on one channel of a first broadcasting band to the receiver*

As discussed above, there is no disclosure that plural entertainment programs having image and mixed sound signals are broadcast on one channel of a first broadcasting band. The Examiner's apparent reliance on the assumption that a television program can be broadcast during the VBI is misplaced and without support.

4. Fourth element - *broadcasting the computer executable program in a second broadcasting band which is different from the first broadcasting band to the receiver*

In Cohen, it is disclosed that a computer executable program may be broadcast in the VBI during a television broadcast. "The data from database 118 can be encoded according to packet 131 protocol in the vertical blanking interval of TV signal 112." (Col. 12, lines 16-18). The VBI is in the same channel of the broadcast band, and thus if the computer executable program is broadcast in the VBI, it is broadcast in the same band as

the first broadcasting band and not in a second broadcasting band different than the first broadcasting band as required by this claim element. Thus, there is no disclosure of broadcasting a computer executable program in a second broadcasting band in Cohen, and thus the Examiner's suggestion to the contrary is entirely without objective support.

5. Fifth element *selecting one of the plurality of entertainment programs for display at the receiver*

Because Cohen does not disclose that plural entertainment programs are broadcast on a single channel, there is no disclosure of the selection of one of the plurality of programs for display. The Examiner is silent as to where this element is found or taught in Cohen.

6. Sixth element – *using the computer executable program to provide the sound corresponding to the selected one of the plural entertainment programs*

While Cohen does disclose the use of a computer executable code to display data (Col. 13, lines 1-3), there is no disclosure that executable code is used to mix sound signals, as discussed above, or that the code is used to provide the sound for an entertainment program selected by the user.

Thus when each of the claim elements are considered in the context of the while invention, including how the claim elements interact with each other, the examiner has not established a *prima facie* case of obviousness.

E. Cohen Teaches Away From The Applicant's Invention

As a separate basis for finding the Examiner's rejection without merit, the Examiner failed to consider the prior art in its entirety, including disclosures that teach away from Applicant's claimed invention. The invention embodied by independent

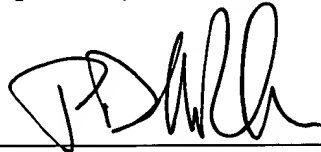
claim 6 provides that the sound signals and the image signals of the plurality of entertainment programs are broadcast in a single channel, and the user may select one of the plurality of entertainment programs from the single channel. By broadcasting plural programs on a single channel, the viewer is provided interactivity of selection of entertainment programs in the receiver in the viewer's premises. Thus, local interactivity of Applicant's invention obviates the need for a return link to the broadcast station and is an important feature of Applicant's invention.

In contrast, Cohen expressly discloses that "for interactivity, a point to point return link is needed." (Col. 11, lines 46-47). Cohen further discloses how return link 140 is a unidirectional link to database 118 in TV station 111 (Col. 12, lines 24-26). Thus, Cohen expressly teaches away from providing local interactivity by broadcasting plural entertainment programs to a viewer's receiver, and therefore, it is improper for the examiner to ignore this significant teaching in suggesting that Cohen can be modified to obviate the use of the "needed" return link.

VIII. CONCLUSION

There is no basis to find that the prior art of record renders obvious the invention claimed as a whole. The prior art lacks aspects of the invention that are particularly and distinctly claimed, and provides a significant teaching away that eliminates any motivation to modify the cited art as suggested by the examiner. Because the rejection lacks adequate support on the record to conclude that the invention claimed as a whole is known from the prior art, or could routinely be met by selectively modifying features of the cited reference in a manner that is consistent with incentives that are shown in the objective teachings of the references, the examiner has not met his burden of showing a *prima facie* case of obviousness. Applicant therefore requests that the rejection be REVERSED and that the case be remanded to the examiner with instructions to allow pending claims 6-10.

Respectfully submitted,



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Claims Appendix

Claims 1-5. (cancelled)

6. (Previously presented) A method of television broadcasting comprising the steps of:
providing plural entertainment programs for broadcast to a receiver, each
entertainment program having image signals and sound signals;
mixing the sound signals of the plural entertainment programs using a computer
executable code;
broadcasting the image signals and mixed sound signals for the plurality of
entertainment programs on one channel of a first broadcasting band to the receiver;
broadcasting the computer executable program in a second broadcasting band
which is different from the first broadcasting band to the receiver;
selecting one of the plurality of entertainment programs for display at the receiver;
using the computer executable program to provide the sound corresponding to the
selected one of the plural entertainment programs.
7. (Previously presented) The method of Claim 6 wherein the computer executable
program is broadcast in advance of the image and mixed sound signals.
8. (Previously presented) The method of Claim 6 wherein the broadcasted image and
mixed sound signals is digital signals.
9. (Previously presented) The method of Claim 6 wherein the broadcasted image and
mixed sound signals is encoded in MPEG format.
10. (Previously presented) The method of Claim 6 wherein the first broadcast band is
the streaming band and the second broadcast band is the data broadcast band.

Evidence Appendix

- NONE -

Related Proceedings Appendix

- NONE -